

## **SECTION II. REGIONWIDE ACTIVITIES**

This section describes the water quality concerns that affect the entire region and are not confined to a single watershed. These concerns include effluent and agricultural dominated waterbodies and the impaired water body list. This section also describes programmatic activities that are not prioritized by specific watershed concerns such as basin planning, regulatory programs, tank programs, special investigation and cleanups, and Department of Energy and Defense sites.

### **Regional Description**

The Central Valley Region covers over 60,000 square miles and contains over 40% of the land and more than 75% of the irrigated acreage in California. Three major watershed are encompassed by the Region: the Sacramento River, the San Joaquin River, and the Tulare Lake Basin.

### **Watershed Management Initiative**

The Watershed Management Initiative is different than watershed management activities. The State Water Resources Control Board's Strategic Plan included a watershed management initiative goal intended to integrate water quality monitoring, assessment, planning, standard setting, permit writing, nonpoint source management, groundwater protection and other programs to promote more efficient use of personnel and fiscal resources while ensuring maximum water quality protection. The Central Valley Regional Board is committed to implementing this initiative.

The Regional Board receives funding for a watershed coordinator that is spread between our three offices to achieve maximum benefit of the resource. This funding is used to coordinate revision of the WMI chapter among the various programs in the three offices and participate in the WMI workgroup. The workgroup assures consistency between the regional chapters and works to identify and overcome constraints that inhibit a watershed management approach. The WMI chapter describes the Regional Board's approach to water quality management in the three major watersheds in the Region. It also describes the water quality issues in the individual watersheds and actions underway or needed to address them.

Since the current WMI coordinator resource is entirely allocated to WMI chapter updates and workgroup activities, no WMI resources are available to work with stakeholder groups or to assist with watershed activities. Resources from other programs are used to provide some technical assistance and guidance to local stakeholder groups.

Because of the size of the Central Valley and the three offices, additional resources should be made available to allow the coordinator to serve as a point of contact on watershed management issues and facilitate the exchange of information between watershed groups, Regional Board staff, the general public, other Regional Boards, and other agencies. The coordinator would identify unmet water quality needs and seek to coordinate programs and/or activities to meet

those needs. An additional two PYs are needed to more effectively implement the WMI by allocating one coordinator to each major watershed.

### **Watershed Activities**

The goal of the Region's watershed activities is to coordinate Regional Board programs with local stakeholder goals and activities in a complimentary manner to achieve water quality improvements and promote restoration of water resources.

There are numerous local, grass roots efforts that have been initiated to restore watersheds that have been degraded, or are threatened to be degraded, by various land use practices. Restoration efforts include stream rehabilitation, changes to existing land use practices, and improved watershed management (i.e., forest management, wildfire fuel reduction). There are more than 80 active watershed groups in our region, of which staff is working with less than half. Current watershed activities include:

- Assist stakeholder groups to identify nonpoint source (NPS) problems and help develop and implement projects to address water quality problems.
- Work with stakeholder groups to find funding sources for watershed planning and implementation projects and to assist them in framing their proposals.
- Work with stakeholder groups to design and implement monitoring programs for NPS implementation projects and to assess overall watershed conditions. Regional Board goals are to ensure that proper analytical techniques are used and quality assurance and quality control protocols are followed.
- Educate stakeholders and the general public about the value of watershed management and protection and encourage implementation of Best Management Practices (BMPs).

Current unfunded needs include:

- Expanding the level of support in watersheds where staff is currently active and expand activities into additional sub-watersheds.
- Expanding work with watershed groups to develop grant ideas and proposals.
- Working with local planning agencies and work toward bridging the gap between land use and water quality planning.
- Working closely with agencies involved in associated activities such as salmon restoration and wetland enhancement.
- Coordinating monitoring efforts within a watershed and integrating regional board programs with those of other agencies and organizations.

- Providing continuity between project development, implementation, and post-project monitoring of state or federally funded projects.

Currently, resources for working with stakeholders are culled from nonpoint source, TMDL, watershed management, basin planning, CALFED, Sacramento River Watershed Program and other programs. Although some assistance to the stakeholders can be provided from these programs, funding constraints do not allow full participation of staff in stakeholder issues. Separately from the WMI resources, an additional 1.0 PY, annually needs to be dedicated to assist stakeholders in each of the watersheds (Sacramento River, San Joaquin River and Tulare Lake Basin).

## **Regional Concerns and Issues**

### *Agricultural Dominated and Effluent Dominated Water Bodies*

It is estimated that 70% of the tributary water bodies in the valley floor are dominated by discharges from agriculture, urban areas, and NPDES facilities. This is not uncommon throughout the West where, because of the arid climate, flow in streams is often low due to limited recharge from groundwater and infrequent storm events that occur only during certain times of the year. As a result, stream flow, particularly during the summer months, can be dominated by discharge from human activities.

Beneficial uses for many tributaries are not specifically listed in the Basin Plan. In the absence of listed use designations, beneficial uses are assumed to be the same as for the first downstream water body for which beneficial uses are listed in the Basin Plan. In agricultural environments, a complex network of modified natural and constructed channels convey irrigation supplies to farms and export agricultural drainage water to natural streams. Many of these constructed and artificial channels lack the habitat and physical flow characteristics of natural channels required to sustain the full range of aquatic life and other beneficial uses. Additionally, in natural channels whose flow is dominated by agricultural drainage, water quality and hydrologic modifications may not support the full range of aquatic life and other beneficial uses. In the Sacramento and San Joaquin River Basins, it is estimated that more than 130 natural water bodies, totaling more than 1100 miles, are dominated by agricultural drainage and supply water. There are more than 4100 water bodies, totaling over 9300 miles, which are constructed facilities designed to carry agricultural drainage and supply water. There are more than 75 water bodies, totaling almost 600 miles, which are natural dry washes that have been altered to carry agricultural supply or drainage water. Water bodies that receive agricultural drainage typically support some sort of aquatic life and limited beneficial uses and may be impaired if elevated levels of pesticides and other contaminants are present. All of these water bodies are known as Agricultural Dominated Water Bodies (ADWs).

Some of the water bodies in the Sacramento River and San Joaquin River Basins are dominated by NPDES discharges; these water bodies are also known as effluent dominated water bodies (EDWs). Effluent limits for discharges to EDWs are typically set equal to the numerical objectives contained in the Basin Plan, National Toxics Rule, California Toxics Rule, or other

criteria to assure compliance with narrative water quality objectives. Meeting these limits may be difficult and expensive. In some cases, treatment plants are capable of discharging high quality effluent that would fully protect the assigned beneficial uses and yet still be in violation of the objectives. The consistent flows provided by the wastewater discharge may enhance some aquatic life beneficial uses but be detrimental to others that depend on the ephemeral nature of the stream. The flows may cause the original conditions in the stream to change, causing a shift in the uses that are actually realized within a beneficial use category (i.e. a shift from the unique uses of ephemeral waters to the general uses of a perennial water). Dischargers question the need to fully protect the general uses when it is the discharge itself that allows these uses to exist at all.

The beneficial uses of both ADWs and EDWs should be evaluated. Possible alternatives to consider are a) designating site specific beneficial uses, b) using “warm” and “cold” designations on a case by case basis rather than applying the tributary rule, c) developing an agricultural dominated or EDW beneficial use which would consist of a limited warm water habitat, recreation and/or municipal use, d) adopting site specific objectives, or e) developing provisions for granting variances from compliance with water quality objectives. Use of biological information can help to more precisely define potential aquatic life uses and may eventually be used to develop biological criteria, which in turn can be used to guide water quality management decisions.

Any modification to beneficial uses or development of water quality objectives or adoption of variances can only be accomplished through the Basin Plan amendment process. Because of the number of water bodies where action is needed, alternative policies and actions may need to be considered. Funding from stakeholders and the NPDES program is allowing some work to proceed for EDWs. Similar funding is not available for agricultural dominated water bodies. Work is in progress that is expected to result in a template for beneficial use studies and resulting beneficial use amendments. Even with a template, evaluation of water bodies, not covered with the allocated resources, will require staff resources of 0.5 PYs for three years to oversee studies and to conduct a basin plan amendment and contract funds estimated at \$500,000 per beneficial use evaluation and water quality objective development.

### Drinking Water Issue

The Sacramento/San Joaquin River Delta is the source of drinking water for two thirds of the state’s population (over 20 million people). Due to increased intensity of development and coincident population growth, the demand for high quality drinking water is increasing. However, the two principal rivers discharging to the Delta, the Sacramento and San Joaquin Rivers, receive pollutants from the various land uses in the Central Valley including, agriculture, mining, confined animal facilities, and urban runoff. These pollutants include pesticides, trace elements, metals, nutrients, and pathogens.

In response to directives in the 1996 Reauthorization of the federal Safe Drinking Water Act, the USEPA has been developing more stringent regulations with respect to controlling and reducing levels of disinfection by-products (DBPs), total organic carbon (TOC) and pathogens. USEPA is

expected to release additional rules that will require more surface water treatment and control of contaminants in source waters.

These new drinking water regulations identify constituents of concern that have not been part of the waste discharge arena. In addition, the role of some of these constituents in the environment is not fully understood and so these constituents are difficult to regulate. The CALFED Record of Decision obligates the Regional Board, with support from the CALFED agencies and the Department of Health Services (DHS), to develop and adopt a policy for sources of drinking water by the end of 2004. This policy is to include identification and implementation of appropriate pollutant source control measures, focused regulatory and/or incentive programs targeting pollutants of concern, and development of a monitoring and assessment program. Particular interest has been expressed by the stakeholders for development of a water quality objective for total organic carbon (TOC).

Stakeholders have provided staff resources of 0.5 PYs per year and are seeking funding to conduct the necessary studies.

### Water Quality Assessment

Every two years, the State, in accordance with Section 305(b) of the Clean Water Act, is required to submit to the USEPA a report on the status of water quality in the State. The report must include an assessment of water quality conditions in all surface water bodies in the State. As part of this report, the State is required to update the Section 303(d) list of impaired water bodies. The 303(d) list consists of water bodies that are not expected to meet water quality standards even if point sources are regulated to comply with the current level of treatment of technology required by law. For these water bodies, the State is required to establish a time schedule for developing load reductions that will result in the water body being in compliance with standards.

The Regional Board does not have adequate funding for regionwide assessments. Recently, some funds were provided through the Surface Water Ambient Monitoring Program (SWAMP) but not enough to provide a meaningful assessment. Regional Board staff relies on outside agencies and stakeholders to provide assessment information to develop the 303(d) list. The State Board approves the 303(d) list at a public hearing.

Preparing the assessment report and 303(d) list requires staff time to evaluate information and monitoring data, prepare agenda items, answer public comments, and to meet with interested parties to receive public input on list development. Staff participates in a statewide workgroup that works together to develop a consistent statewide program for identifying and listing impaired water bodies. Approximately 2 PYs are being used to complete this task.

## Regional Programs

### Total Maximum Daily Loads

The Total Maximum Daily Load (TMDL) program serves as the Regional Boards focal point for addressing the Central Valley's most difficult, long-term surface water quality problems. As part of the TMDL program, the Regional Board conducts a thorough analysis of existing data and policies and then works through a public process to establish a comprehensive regulatory framework for solving the pollution problem. In addition to required TMDL elements, this framework often includes new numeric water quality objectives, implementation policies, compliance schedules, and monitoring requirements.

A more robust regulatory framework, which goes beyond merely establishing the TMDL, is often required to provide clear goals, expectations, and timeframes that are otherwise not identified in the Region's Basin Plans. While remaining focused on attaining water quality objectives, the framework for solving different water quality problems is flexible with respect to expected time frame for achieving compliance and method of compliance.

TMDL planning activities are closely coordinated with the Board's regulatory programs (e.g. NPDES, irrigated lands waiver) to ensure compatibility with those programs and feasibility of implementation. This coordination has resulted in additional data being collected for TMDL development; early implementation activities to take place; and streamlined TMDL adoption.<sup>1</sup> As part of TMDL planning, the Regional Board also strives to maximize its collaboration with stakeholder groups, while carrying out its mandated duties to establish TMDLs and protect water quality.

In the Central Valley, there are 103 water quality limited segments on the 2002 Federal Clean Water Act Section 303(d) list with 255 waterbody /pollutant pairs (some water quality limited segments are impaired by more than one pollutant). As of October 2004, the Regional Board had established TMDLs for 15 of those waterbody / pollutant pairs; established TMDLs for 5 waterbody / pollutant pairs no longer listed; and was working on nine TMDL projects to address an additional 42 waterbody / pollutant pairs.

The initial focus of the Region's TMDL efforts has been on those water quality problems that are large scale and have the greatest potential impact on beneficial uses. The pollution problems being addressed include mercury in the Sacramento watershed and Delta; currently registered pesticides throughout the Central Valley; and agricultural related pollutants in the San Joaquin watershed. The challenges associated with these efforts go beyond those associated with establishing the TMDL. Issues that are being considered as part of the TMDL effort include: water rights; how to clean up abandoned mines; pollutant trading; and resolving sometimes incompatible mandates in environmental laws (e.g. FIFRA<sup>2</sup> vs. Clean Water Act and Porter-Cologne).

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<sup>1</sup> TMDL program staff worked with MS4 permit staff, so an MS4 permit could serve as the basis for a TMDL. The Board was able to adopt the TMDL by resolution rather than going through a lengthy Basin Planning process.

<sup>2</sup> Federal Insecticide, Fungicide, and Rodenticide Act

To carry out its TMDL program, the Regional Board has 18 PY that are supported by TMDL, CALFED, and Non Point Source funds. The Regional Board also competes annually for contract funds to support its TMDL data collection and analysis efforts. In addition to TMDL development, the staff and contract resources are used to oversee and track implementation for four recently completed TMDL projects.

### Grant Project Priorities

Many water quality improvements are beyond the jurisdiction of the Regional Board. In many cases, stakeholders are best suited to provide stewardship efforts to protect and enhance the water quality of local streams. The Regional Board supports these efforts by providing technical assistance and directing grant funding to these groups. A list of the regional priorities for these projects is Appendix 1. Priority projects should result in measurable improvements in water quality and contribute to ongoing implementation at a reasonable expense.

### Monitoring and Assessment

The Regional Board is responsible for protecting beneficial uses of water in the Central Valley Region. Comprehensive monitoring and assessment programs are critical for evaluating whether beneficial uses are being protected and for evaluating the success or failure of control programs. Over the years, the Regional Board and other agencies have focused their limited resources on the mainstem rivers and water bodies that have the most obvious impairments. Because of this emphasis, data is available for the Delta, the lower Sacramento River, the lower San Joaquin River and a few other water bodies that are located near significant pollutant sources (i.e., Iron Mountain Mine and Penn Mine). However, there have never been enough resources to fully assess the conditions in these water bodies. Many small tributaries to the mainstem rivers, streams upstream from the major reservoirs, and most of the lakes have received little attention. Comprehensive assessments have never been made for ground water quality. However, limited monitoring has identified significant ground water quality problems in all three watersheds that will require extensive work to determine what types of actions can be implemented to correct these problems. In all three watersheds, there are inadequate resources to address the monitoring and assessment needs. Activities must be prioritized, while at the same time allowing development of plans to eventually address all the needs in the watersheds.

The primary focus of the Regional Board's monitoring efforts is to: 1) follow-up on water quality problems that have previously been identified and use the data to support 303(d) listing recommendations; and 2) initiate programs to assess water bodies that have not previously been comprehensively evaluated. A wide variety of agencies and stakeholders are involved in monitoring and assessment activities. An integral part of the Regional Board monitoring strategy is to cooperate with these other stakeholders in implementing monitoring and assessment programs. One of the Regional Board's goals is to develop monitoring and assessment programs and priorities using a consensus approach involving stakeholders within a watershed.

Because each watershed has both a unique set of stakeholders and unique water quality concerns that must be addressed, the management process and the accompanying monitoring program are somewhat watershed specific. A common element in all three watersheds is that monitoring

programs are designed primarily to address nonpoint source problems, since the most significant water quality problems in the Region result from nonpoint sources (see Clean Water Act Section 303d List and Water Quality Assessment) and the point sources are being monitored under the permit programs.

A regionwide need is the bioassessment and habitat evaluation of effluent and agriculturally dominated water bodies throughout the Central Valley. This effort is being coordinated with the USGS and DPR in order to identify appropriate water bodies to evaluate within each hydrologic regime of the basin and to maximize use of the resulting data.

Historically, resources to monitor nonpoint source and other beneficial use impacts have been limited. Recent funding through both the TMDL program and through the Surface Water Ambient Monitoring Program (SWAMP) has allowed increased effort focused on developing a comprehensive monitoring program. The TMDL monitoring focus is to identify sources of loads of contaminants known to impair water quality in specific water bodies and to evaluate the success of control efforts implemented to reduce those loads. The SWAMP monitoring has two major components: first, to direct sampling to suspected water quality impairments and provide defensible listing and delisting of 303(d) water bodies; and second, to provide general statewide information on water quality in California.

A review of the monitoring requirements for surface and groundwater programs (Appendix 3), with estimated staff and contract resources, shows an annual need of 61.5 PYs and \$19,275,000 in contract funds. There are four specific areas of significant need for monitoring resources. These are: selenium monitoring on the San Joaquin River, which was cut from the budget in 1993 during the budget shortfall; an integrated dormant spray program in cooperation with DPR; a comprehensive toxicity and TIE monitoring program on the San Joaquin River and its major tributaries; and loading of methyl mercury to the Delta from upstream sources. The Region's monitoring and assessment programs are described in the State of the Watershed Reports and in Appendix 3.

### Nonpoint Source Program

Nonpoint source pollution is the leading cause of water quality impairment in California. California's Nonpoint Source (NPS) Pollution Control Program has been in effect since 1988. In 2000 the lead State agencies for the NPS Program, the SWRCB and CCC in coordination with the RWQCBs, released the "Plan for California's Nonpoint Source Pollution Control Program" (NPS Program Plan). The NPS Program Plan enhances the State's efforts to protect water quality, and to conform to the Clean Water Act Section 319 (CWA 319) and Section 6217 of the Coastal Zone Act Reauthorization Amendments (CZARA). The State's long-term goal is to "improve water quality by implementing the management measures identified in the California Management Measures for Polluted Runoff Report (CAMMPR) by 2013." A key element of the Program is development and implementation of five-year plans that cover State Fiscal Years 1998-2003, 2003-2008, and 2008 -2013.

The California Nonpoint Source Program encompasses more programs than the activities funded through the federal nonpoint source program resources. Appendix 2 describes the Regional

Board's activities and needs under each of the NPS Program management measures. In addition, a description of activities and needs for abandoned mines is also included in Appendix 2.

### Basin Planning

The Basin Plan is the framework that implements state and federal water quality control laws and regulations within each regional board. There are two Basin Plans that cover the Central Valley Region. One Plan covers the Tulare Lake Basin and the other one covers the Sacramento River and San Joaquin River watersheds, including the Delta. The Basin Plans include a listing of beneficial uses of waters in the Region, water quality objectives to protect these uses and a program of implementation needed to achieve the objectives and protect the beneficial uses. It is the intent of the Regional Board to maintain the Basin Plans in an updated and readily available edition that reflects the current water quality control program. However, with only 0.6 PYs available for basin planning activities each year, many planning issues remain outstanding. Staff basin planning activities is generally limited to conducting the triennial review. The Triennial Review process divides basin planning issues into high, medium and low priority with the amount of resources that are estimated to be needed to complete each issue. A detailed description of all issues from the last triennial review may be found in the two staff reports available from our website at:

[http://www.swrcb.ca.gov/rwqcb5/available\\_documents](http://www.swrcb.ca.gov/rwqcb5/available_documents)

Other than triennial reviews, basin planning resources are used to train staff and other interested parties and ensure consistency in basin plan amendments, which are typically funded through other programs and by stakeholders.

### Water Quality Certification Program

The State and Regional Boards protect water quality from dredge and fill activities (including dredging, placement of fill in waterways, streambank erosion control projects, installation of pilings, placement of pipes, etc.) in waterways and wetlands through issuance of Water Quality Certifications in accordance with Section 401 of the federal Clean Water Act (CWA). Water Quality Certifications are issued as part of the US Army Corps of Engineers (USCOE) permitting process under Section 404 CWA, and deal with potential surface water quality problems outside of the NPDES Program (which is under Section 402 CWA). Water Quality Certification is the method used by the Regional Boards to implement the Governor's Executive Order that there be no net loss of wetlands within the State.

Certification cannot be issued without compliance with the California Environmental Quality Act; the Regional Board becomes lead agency for some of these projects and must prepare, circulate, and adopt environmental documents for the projects. Currently, 1.8 PYs per year are allocated to this program. Based on statewide estimates developed by the Coordinating Committee, an annual augmentation of about 25.0 PYs is required to fully conduct this program in the Central Valley.

### Storm Water Regulatory Program

The major components of the storm water regulatory program are municipal and industrial. The municipal program involves urbanized areas of 100,000 or more population and requires the municipalities to identify and characterize storm water discharges, and to develop programs to remove pollutants in the runoff to the maximum extent practicable. There are seven municipal permits which need updating every five years: one is in the Sacramento River Watershed, one is in the San Joaquin River Watershed, three are in the Delta Subwatershed, and two are in the Tulare Lake Watershed. There are also four individual permits, one regionwide, two in the Sacramento River Watershed and one in the Delta Sub-watershed. The industrial program consists of two general permits that cover general industrial and construction activities. The region has about 1500 industrial (633 in the San Joaquin River Watershed, 325 in the Delta Sub-watershed and 495 in the Tulare Lake Watershed) and 1400 construction sites (335 in the San Joaquin River Watershed, 20 in the Delta Sub-watershed and 232 in the Tulare Lake Watershed) which submitted Notices of Intent, which brings the facilities into the storm water program. Only a small fraction of the sites (about 60 industrial and 60 construction) are inspected annually. Some of the industrial facilities have waste discharges that are regulated under other programs such as Chapter 15 and Confined Animals. In those cases, storm water inspections are conducted in conjunction with inspections under those other programs. However, additional staff resources are still needed to conduct field inspections and follow-up enforcement, as needed. An ideal schedule would have all construction sites inspected at least annually, since they are short-term projects, and industrial sites inspected every few years. Industrial facilities are required to submit Annual Reports summarizing their compliance with the general storm water permit. The reports are currently logged in, but undergo minimal review.

There are an unknown number of construction and industrial activities that have not filed required Notices of Intent to comply with the General Storm Water Permits. The SWRCB through contracts is conducting a non-filer search, but the follow-up on the results of the searches is up to the Regional Boards. Current staffing does not allow sufficient time to follow-up on all of the SWRCB non-filer search data, or on other information on non-filers that the Board receives.

Complaints are periodically received concerning storm water runoff from industrial and construction sites. Current staffing does not allow investigation of all complaints. Currently, 11.6 PYs per year are allocated to this program. Based on statewide estimates developed by the Urban Runoff Taskforce, an annual augmentation of about 30.0 PYs is required for this program.

### NPDES Program

The Regional Board regulates discharges of wastes to surface waters with NPDES permits to protect the quality and beneficial uses of those waters. There are 318 regulated NPDES facilities in the Region: 69 major and 249 minor. Of these, 167 (35 major and 132 minor) are within the Sacramento River watershed, 78 (19 major and 59 minor) are within the San Joaquin River watershed, 24 (9 major and 15 minor) are within the Delta sub-watershed, and 49 (6 major and 43 minor) are within the Tulare Lake Basin watershed. At the current base resource level, it is

not possible to complete all of the new, revised, and renewed permit actions on schedule. Additional staff resources of 2.0 PYs are needed to develop permits in a timely manner.

Based on the SWRCB Administrative Procedures Manual (APM) minimum levels of inspections for NPDES facilities, over 700 inspections are required annually in the Region. With existing staff, slightly fewer than 200 inspections of NPDES facilities are conducted annually. Smaller NPDES dischargers may only be inspected once every five years. Inspections are often not as thorough as desired and sampling is not conducted due to lack of staff time. Estimated staff time to comply with the APM and complete 500 additional inspections at 20 Hrs / inspection = 10,000 hours, or 5.8 PYs.

### Waste Discharge Requirements Program

The Regional Board regulates through waste discharge requirements (WDRs) over 1335 facilities (excluding dairies and other confined animal facilities, which are discussed separately) that discharge to land in a manner that allows infiltration into soil and percolation to groundwater. Of these facilities, over 500 facilities are in the Sacramento River watershed; 432 facilities are in the San Joaquin River Watershed, 87 facilities are in the Delta Sub-watershed, and 535 facilities are in the Tulare Lake Watershed. The Board also indirectly regulates many other facilities that discharge waste to land through conditional waivers of WDRs. These facilities all have the potential to create nuisance conditions and to degrade groundwater. For this reason, both regulated and waived discharges fall under the Board's waste discharge requirement (formerly the 'Non15', now 'WDR') program. To ensure that water quality is protected, the program consists of issuing WDRs for new facilities, updating and revising existing WDRs, conducting announced and unannounced compliance inspections, responding to complaints, reviewing self monitoring reports (SMRs), technical reports and taking various levels of enforcement action and responding to appeals of Board actions.

To regulate facilities, the WDR program employs both individual and general (region-specific and statewide) WDRs. The Board imposes conditions of discharge intended to assure that wastewater treatment and management is consistent with the goals of the Board, and with the goals of the State Legislature when it created the regional water quality control boards. The dischargers are required to implement best practicable treatment and control where the Board allows groundwater limits that exceed background water quality.

Normal conditions of discharge include regular monitoring and reporting of effluent quality, application rates, soil vadose zone, and groundwater. The surveillance element consists primarily of spot inspections and Board staff review of self-monitoring reports (SMRs). As necessary, enforcement is initiated in accordance with a *State Water Resources Control Board Water Quality Enforcement Policy* (Enforcement Policy).

Based on the performance goals described in the State Board's *Administrative Procedures Manual for Water Quality (APM)* and subsequent policies (e.g., Enforcement Policy), the resources needed to properly administer the WDR program in the Central Valley were estimated to be 116 PYs (excluding needed dairy resources). The past funding deficiencies have created a backlog of unmet updates, inspections and self-monitoring report reviews; undiscovered

violations; delayed enforcement; and unauthorized and unaddressed water quality degradation. The accumulated backlog of overdue updates is by far the largest of all the regional boards (as is the total number of facilities). The problem is worst in the Tulare Lake Watershed. Assumptions in this chapter are that program funding will remain at about the current level and continue to be the main impediment that precludes the Board from fulfilling all of its program responsibilities.

Conditions of discharge thus far have relied on generalized water quality limitations and treatment and control expectations, which based on reviews funded in FY 1999/2000, have not been effective in controlling groundwater degradation and potential nuisance. The Board staff is reviewing the approach for program modifications that will ultimately implement more specific conditions and improve program consistency and discharger accountability. Many dischargers of industrial food processing land treatment operations are expected to self-manage and self-monitor their wastes. An unacceptable number have been found to not be following minimum guidelines (BMPs) for the industry, to be creating nuisance conditions, and to be degrading groundwater. Efforts to correct problems at a number of sites have resulted in a critique on the validity of the premise on which the BMPs have been based. Both the wine industry and food processing industry in general initiated further study into waste management practices. Similarly, municipal and domestic dischargers have been found to be deviating from good operation and management, and several have degraded groundwater quality.

These situations have resulted in the need for increased technical scrutiny to determine whether waste treatment and control measures employed by dischargers satisfy the best practicable treatment and control standard mandated by the Antidegradation Policy. Further, and more importantly, increased monitoring and technical evaluation of potential impacts on groundwater is necessary to assure that degradation does not exceed what has been determined allowable in accordance with the Antidegradation Policy.

**Biosolids:** The Region receives municipal sludge generated in the San Francisco Bay, Central Coast, and Los Angeles basin areas, as well as municipal sludge generated within the Central Valley itself. The State Board adopted statewide general WDRs and an EIR in FY 2000/01. Some counties have sought delegation of the biosolids program, and many have prohibited or are considering prohibiting all, or all but exceptional quality, biosolids application on agricultural property.

**Wastewater Effluent Reuse:** Most wastewater treatment plants in the Central Valley use some form of land disposal. This use represents a significant loading to the groundwater in the Valley because most are operated as disposal sites rather than reuse areas. All of these should be evaluated to determine the potential for increased efficiency to reduce impacts to groundwater. In addition, these should be evaluated for potential use in wetland development. This effort would build upon the previous study on potential wetland development in response to AB 4328 completed November 1991.

With the current program staffing, the Board has been able to process up to 20, 9, and 29 updates annually in the Sacramento, San Joaquin and Tulare watersheds, respectively, under the current priorities and resource distribution. The Board will enter this planning period with a backlog of

35, 88, and 150 WDRs overdue for updates in each watershed, respectively. Given the same amount and distribution of resources, same processing rate, and those WDRs that come due for update within the planning period, by the end of FY 2005/06 the backlog will increase to 115 and 159 for the Sacramento and San Joaquin watersheds, respectively. The backlog in the Tulare watershed should be reduced to 87 in this period. Board staff will work cooperatively with industry to define BMPs and to improve discharger accountability for prevention of nuisance and providing groundwater of the highest water quality reasonable.

The APM calls for nearly 3000 inspections annually. Due to resource constraints, the Board has never been able to perform this level of surveillance.

Absent a significant field presence, self-monitoring reports (SMRs) are the primary means of determining a discharger's status of compliance with WDRs. The Board is expected to obtain 100% of reports due and perform a Level 1 review of all of them. Contracted student assistants that work part-time perform most reviews, and this has inherent problems of timeliness, continuity, quality control, and training. Groundwater monitoring data is substantially more complex, and of increasingly greater importance, and dependent upon permanent and experienced staff to evaluate results. The Board intends to be fair, firm and consistent in taking enforcement actions in this program while recognizing the individual facts of each case, and to initiate enforcement 'as soon as possible' after discovery of the violation. Enforcement priorities shall consider the following significant violations: chronic violations; violations of prohibitions; spills; failure to submit reports (SMRs and technical reports); violations of compliance schedules; failure to implement a pretreatment program; violation of water quality objectives or groundwater limitations; failure to pay fees, penalties or liabilities; and falsifying information.

The Board will continue to support small communities in obtaining grant funds, and to support all communities in obtaining loans for needed improvements. See Appendix 1 for additional information regarding these grants.

### Title 27/Chapter 15

Staff is working on about 100 Chapter 15 sites in the Sacramento River Watershed, 56 sites in the San Joaquin River Watershed, 20 sites in the Delta Sub-watershed, and 165 sites in the Tulare Lake Watershed. This includes landfills, aerial applicators, industrial surface impoundments, land treatment facilities, compost facilities, active mining operations, and certain abandoned mines. The program includes issuing permits for new facilities, revising existing permits, reviewing technical documents submitted for WDR compliance, conducting inspections, taking enforcement actions, responding to appeals and addressing complaints. It is anticipated that roughly the same or a slightly higher level of funding will be available in the next few years. Resources are adequate to complete scheduled workplan commitments, but staff work on unanticipated enforcement, appeals, and citizen's complaints may hamper completion of those commitments.

### Department of Defense (DoD)

In the DoD program, Board staff oversee the investigation and cleanup of sites with soil and groundwater pollution at active, closed, and former Department of Defense sites. By their nature, most Department of Defense sites are, or were, self-contained “cities” with their own water supply and waste treatment plants, with populations in the tens of thousands of workers and residents. In addition, these facilities often perform functions typical of industrial centers, such as equipment repair, maintenance, and fabrication. These sites are polluted by numerous contaminants, including petroleum, volatile organic compounds, pesticides, inorganic constituents, etc. Much of the pollution is due to past waste disposal and handling practices, as well as spills and leaks. Many of these sites threaten nearby water supply wells, including private domestic, agricultural, and municipal supply wells, often in areas increasingly dependent on groundwater. In addition to the concerns listed above, closed or closing military facilities have the added dimension of re-use. Re-use of closed facilities is in the best interest of the military, the State, and the local community. Often there is pressure on the military to accelerate cleanups at these sites so that the infrastructure and the property can be transferred to new owners to allow economic development to occur. The respective DoD branches are required to investigate and remediate the pollution, and pay the Board staff’s oversight costs through a reimbursement fund set up through a Memorandum of Agreement with the State. Funding for this program is expected to decrease over the long-term, as several large facilities undergo the closure process and are finally cleaned up. Short-term resource needs are anticipated to remain the same for the next several years, however.

Staff is working on 17 sites in the Sacramento River Watershed (6 of which are large sites), 11 sites in the San Joaquin River Watershed (5 of which are major sites), one in the Delta Sub-watershed, and two in the Tulare Lake Watershed (both of which are large sites). There are not enough resources to adequately cover all of the sites.

Funding for these facilities is expected to decrease over the next several years as investigative phases are completed, remedial systems are installed, and the sites enter into long-term operation and maintenance phases for the treatment systems. Regional Board oversight will still be required during these long-term cleanup phases to ensure systems are achieving the cleanups agreed to with the military.

#### *Spills, Leaks, Investigations and Cleanups/ Department of Energy (SLIC/DOE)*

In the Spills, Leaks, Investigations and Cleanups program (including Department of Energy facilities) program, Board staff oversees the investigation and cleanup of sites with soil and groundwater pollution by numerous contaminants, including petroleum, volatile organic compounds, pesticides, inorganic constituents, etc. Much of the pollution is due to past waste disposal and handling practices, as well as spills and leaks. Many of these sites threaten nearby water supply wells, and new sites are discovered as a result of property transactions or nearby environmental investigations. Responsible parties are required to investigate and remediate the pollution, and to pay the Board staff’s oversight costs.

As part of the SLIC program, staff works on approximately 92 sites in the Sacramento River Watershed, 67 in the San Joaquin River Watershed, 27 in the Delta Sub-watershed, and 33 in the

Tulare Lake Watershed. It is anticipated that about 10% more sites will be added in each of the next two years.

As this is a cost recovery program, resources are generally not an issue, except to the extent accounts are delinquent. However, one part of the SLIC program is cleaning up perchloroethylene discharged from dry cleaners and the sewers they used. Generally, dry cleaners do not have the resources to participate in cleanup or cost recovery, so the ground water remains contaminated. In some cases, staff has convinced the sewer owners to do cleanup, but that takes intensive staff work.

### MTBE in Surface and Groundwater

Methyl tertiary butyl ether (MTBE) has been mixed with gasoline in the Central Valley Region since the mid-1970's as a small percentage to as much as 15% in the late 1990's. MTBE is soluble in water at 42,000 mg/L allowing it to move with groundwater. Except for dilution, the compound is very resistant to natural degradation in either surface or groundwater. The California Department of Health Services has designated MTBE as a potential carcinogen with the MCL established at 14 µg/L and the secondary taste and odor threshold, at 5µg/L.

Currently, staff has recorded over 900 sites with MTBE releases with 24 drinking water wells impacted. MTBE also has been shown to cause high mortality to aquatic microorganisms (food for fish). The sources of MTBE include above and underground storage tank systems, pipelines, landfills and wastewater treatment plants.

Due to the overwhelming number of MTBE sites and the physical & chemical complexities of MTBE, adequate resources are not available at this time. Staff resources allow for cursory oversight of high priority MTBE sites. Significant resources are needed to address this issue.

### Underground Storage Tanks

Underground Storage Tanks (USTs) containing hazardous petroleum products have impacted groundwater resources through leaks and spills. Impacts are at scattered sites in the watershed and are typically associated with service stations for fueling motor vehicles. Contaminants include benzene, toluene, ethylene, xylene and MTBE.

Currently, the Central Valley Region has recorded 2598 leaking underground tanks of which 700 are in the Sacramento River Watershed, 1334 are in the San Joaquin River Watershed, 304 are in the Delta Sub-watershed, and 260 are in the Tulare Lake Watershed. Although not fully evaluated, 1498 of the leaking tanks involve a release of MTBE. Of these involving MTBE, 300, 814, 224, and 160 are within the Sacramento River Watershed, San Joaquin River Watershed, Delta Sub-watershed and Tulare Lake Watershed, respectively.

Investigation, remediation and closure at leaking under ground storage tanks are administered under county and Regional Board programs. Under State Board contract, Local Oversight Programs exist in Sacramento, Solano, Napa, Alameda, San Joaquin, Stanislaus, Tulare, and Kern Counties. The remaining counties receive assistance from Regional Board staff in

administering their programs. Emphasis is placed on enforcement of high-risk sites and no further action required when cases become low risk. Inadequate funding precludes working on more sites.

The Board currently diverts one PY to address problems in Glennville, Kern County. Community wells have been seriously impacted by gasoline releases from a local gasoline station. A settlement was reached in 1991 that set aside \$500,000 for cleanup and abatement. A second release in 1997 with MTBE also affected multiple domestic wells. Emergency, Abandoned, and Recalcitrant Account funds were allocated to help fund remediation and provide alternative water to affected residents.

### *Above Ground Tanks*

The Aboveground Tanks Program with staff oversight has been eliminated. Facilities are still required to be in compliance with the Aboveground Petroleum Storage Act (APSA) which requires tank owners to register their tanks and pay a fee, provide secondary containment, and prepare and implement a Spill Prevention, Control and Countermeasure (SPCC) Plan. At sites that have polluted the environment, responsible parties (RPs) are required to investigate and remediate the pollution. Staff oversees these actions under a cost reimbursement program, where the RP pays the Board's oversight costs.

There are 2076 registered AGT facilities in the Region, 792 are in the Sacramento River Watershed, 496 are in the San Joaquin River Watershed, 50 are the in Delta Sub-watershed, and 738 are in the Tulare Lake Watershed. There are 51 sites conducting soil and groundwater investigations and cleanup under cost recovery, 23 are in the Sacramento River Watershed, 19 are in the San Joaquin River Watershed, and 9 are in the Tulare Lake Watershed.